

REMARKS/ARGUMENTS

The rejections presented in the Office Action dated December 7, 2005 (hereinafter Office Action) have been considered. Claims 1-48 remain pending in the application. Claims 20-29 and 37-48 have been canceled without prejudice, as these claims were withdrawn by the Examiner as being directed to non-elected subject matter. None of the examined claims have been amended, and no claims have been added. Reconsideration of the pending claims and allowance of the application in view of the present response is respectfully requested.

Claims 1, 4, 7-11, 16-18, 30, 32-34 and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,704,365 to *Albrecht et al.* (hereinafter "*Albrecht*") in view of U.S. Patent No. 6,409,675 to *Turcott* (hereinafter "*Turcott*"). Claims 2, 3, 5, 6, 12, 13, 19, 31 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Albrecht* in view of *Turcott*, as applied to claim 1, and further in view of U.S. Patent No. 6,792,308 to *Corbucci* (hereinafter "*Corbucci*"). Claims 14 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Albrecht* in view of *Turcott*, as applied to claim 1, and further in view of U.S. Publication No. 2003/0032889 by *Wells* (hereinafter "*Wells*").

On page 3 of the Office Action, the Examiner contends that *Albrecht* discloses the essential features of the claimed invention, and that the Examiner is interpreting "identifying the signal as a cardiac signal" as filtering out noise.

Three criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or combination of references, must teach or suggest all the claim limitations. MPEP § 2142. Applicant respectfully traverses the rejection since the prior art fails to disclose all the claim limitations and there would be no motivation to combine the references as proposed by the Examiner.

Applicant's claims 1 and 30 recite, in varying form, detecting a composite electrical signal at a subcutaneous non-intrathoracic location, the composite electrical signal associated with a plurality of sources. *Albrecht* discloses a system that includes electrodes that attach to the patient's skin (*see, e.g.*, column 11, lines 11-20). Applicant is unable to find a teaching or suggestion in *Albrecht* that its electrodes are or can be disposed under the skin (i.e., subcutaneous) and outside the rib cage (i.e., non-intrathoracic), and that the disclosed noise reduction technique can be used in such an implementation.

Applicant's claims 1 and 30 further recite, in varying form, identifying a separated signal (separated from the composite electrical signal) as a cardiac signal using the separated signal and the non-electrophysiological cardiac source information. *Albrecht* fails to teach or suggest use of non-electrophysiological cardiac source information to facilitate identification of a separated signal as a cardiac signal.

According to *Albrecht*, surface electrodes are used to detect ECG signals. *Albrecht* assumes (and never questions) that the signals sensed by its surface electrodes are indeed ECG signals. The *Albrecht* disclosure does not teach or suggest that the signals sensed by the surface electrodes are anything but ECG signals. The additional processing techniques in *Albrecht* are merely noise reduction techniques for reducing noise in the ECG signal.

After acquiring the ECG signals, *Albrecht* teaches that a processor reduces noise in the ECG waveform by combining one or more ECG signals (primary signals) and one or more noise signals (secondary signals) that provide information about the noise content of the primary signals. *Albrecht* teaches that the secondary signals relate to the impedance of an electrode that senses the ECG signals. Thus, the secondary signal of *Albrecht* is a signal associated with an electrophysiological cardiac source (e.g., impedance of the ECG electrode). Applicant's claims 1 and 30 recite use of information associated with a *non*-electrophysiological cardiac source.

Using the primary and secondary signals, the processor of *Albrecht* performs an "electrode noise reduction" process as described in the *Albrecht* disclosure. In particular, the processor uses multiple equivalent ECG signals and multiple electrode impedances to

reduce noise in an ECG signal produced by a surface lead (*see*, column 24, lines 55-60). The *Albrecht* technique does not determine whether or not a separated signal is a cardiac electrical signal, and clearly does not make such a determination using non-electrical cardiac activity.

Albrecht fails to teach or suggest many of Applicant's features recited in independent claims 1 and 30. Moreover, it is evident that *Albrecht* teaches a technique very different from that contemplated by Applicant's claimed subject matter. Not only must the claimed invention as a whole be evaluated, but so also must the asserted references as a whole, so that their teachings are applied in the context of their significance to a technician at the time--a technician without our knowledge of the solution." *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143 (Fed. Cir. 1985). One skilled in the art would find little contextual similarity between Applicant's claimed subject matter and that disclosed in *Albrecht*.

Neither *Albrecht* nor *Turcott* teaches or suggests use of information associated with a non-electrophysiological cardiac source in the manner recited in Applicant's claims. In *Turcott*, various physiological sensors are used to monitor a patient's hemodynamic status. *Turcott* does not supply the many elements missing in the *Albrecht* teachings. Moreover, Applicant can find no motivation to combine the reference teachings in the manner suggested by the Examiner, particularly in view of the substantial omission of teachings in the primary reference, *Albrecht*, as discussed above. For at least the reasons discussed above, Applicant's claims 1 and 30 are not rendered obvious in view of *Albrecht* and *Turcott*.

Dependent claims 2-19 and 31-36, which are dependent from independent claims 1 and 30, respectively, were also rejected under 35 U.S.C. §103(a) as being unpatentable over various combinations of *Albrecht*, *Turcott*, *Corbucci*, and *Wells*. While Applicant does not acquiesce with any particular rejections to these dependent claims, it is believed that these rejections are now moot in view of the remarks made in connection with independent claims 1 and 30. These dependent claims include all of the limitations of the base claim and any intervening claims, and recite additional features which further distinguish these claims

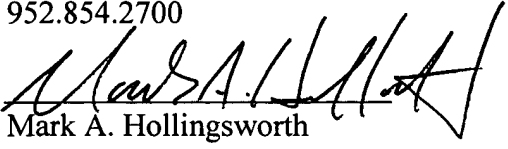
from the cited references. "If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious." M.P.E.P. §2143.03; *citing In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, dependent claims 2-19 and 31-36 are also patentable over any combination of *Albrecht*, *Turcott*, *Corbucci*, and *Wells*.

It is to be understood that Applicant does not acquiesce to Examiner's characterization of the asserted art or Applicant's claimed subject matter, nor of the Examiner's application of the asserted art or combinations thereof to Applicant's claimed subject matter. Moreover, Applicant does not acquiesce to any explicit or implicit statements or conclusions by the Examiner concerning what would have been obvious to one of ordinary skill in the art, obvious design choices, alternative equivalent arrangements, common knowledge at the time of Applicant's invention, officially noticed facts, and the like. Applicant respectfully submits that a detailed discussion of each of the Examiner's rejections beyond that provided above is not necessary, in view of the clear absence of teaching and suggestion of various features recited in Applicant's pending claims and lack of motivation to combine reference teachings. Applicant, however, reserves the right to address in detail the Examiner's characterizations, conclusions, and rejections in future prosecution.

Authorization is given to charge Deposit Account No. 50-3581 (GUID.606PA) any necessary fees for this filing. If the Examiner believes it necessary or helpful, the undersigned attorney of record invites the Examiner to contact him at to discuss any issues related to this case.

Respectfully submitted,
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